

## REMARKS/ARGUMENTS

In the Office Action mailed on July 7, 2009, claims 1-13 are rejected. In response, claims 1, 3, and 8 have been amended, claim 2 has been canceled, and new claims 14-18 have been added. Applicants hereby request reconsideration of the application in view of the claim amendments, the new claims, and the below-provided remarks.

### Claim Rejections under 35 U.S.C. 103

Claims 1, 4, 5, and 7-13 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Ito et al. (U.S. Pat. Pub. No. 2003/0096579, hereinafter “Ito”) in view of Sampath et al. (U.S. Pat. Pub. No. 2003/0012308, hereinafter “Sampath”). Additionally, claims 1-4 and 6-10 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Ro et al. (U.S. Pat. No. 7,283,498, hereinafter “Ro”) in view of Shirakata et al. (U.S. Pat. No. 6,618,352, hereinafter “Shirakata”). However, Applicants respectfully submit that the pending claims are patentable over the cited references for the reasons provided below.

### Independent Claim 1

Claim 1 has been amended to include the limitations of claim 2. As a result of the amendment to claim 1, claim 2 has been canceled and claim 3 has been amended to reflect the correct claim dependency.

In the Office Action, Shirakata is cited for teaching the limitations of claim 2. (See page 5 of the Office Action). However, Applicants respectfully assert that Shirakata fails to teach *“averaging the amplitude and/or phase of the data pilot carriers”* (emphasis added), as recited in now-canceled claim 2 and in amended claim 1. Shirakata teaches that the amount of phase change between two pilot carriers can be obtained by dividing a difference between the transmitter-receiver phase differences of arbitrary pilot carriers by the carrier frequency difference between the pilot carriers. (See column 17, lines 25-30 of Shirakata). In particular, Shirakata teaches that the difference between the transmitter-receiver phase difference of an arbitrary pilot carrier PCa and the transmitter-receiver phase difference of another arbitrary pilot carrier PCb is divided by the

frequency difference between PCa and PCb, and then the amount of phase change with respect to the carrier frequency between the pilot carriers PCa and PCb can be obtained. (See column 17, lines 33-44 of Shirakata). That is, Shirakata teaches dividing the difference between the transmitter-receiver phase differences of two pilot carriers by the carrier frequency difference between the two pilot carriers. While Shirakata teaches how to determine the amount of phase change between two pilot carriers, this does not involve finding the average of the amplitude or phase of the pilot carriers. Therefore, Applicants respectfully assert that Shirakata fails to teach “averaging the amplitude and/or phase of the data pilot carriers” (emphasis added), as recited in amended claim 1. Thus, Applicants respectfully assert that the cited references fail to teach all of the limitations of amended claim 1 and as a result, amended claim 1 is patentable over the cited references.

#### Dependent Claims 3-7 and 9-11

Claims 3-7 and 9-11 depend from and incorporate all of the limitations of independent claim 1. Thus, Applicants respectfully assert that claims 3-7 and 9-11 are allowable at least based on an allowable claim 1. Additionally, claims 5 and 6 are allowable for further reasons, as described below.

#### Claim 5

In the Office Action, Ito is cited for teaching the limitations of claim 5. (See pages 3 and 4 of the Office Action). However, Applicants respectfully assert that Ito fails to teach “comparing an amplitude of each of the training pilot carriers (TRPC) with a reference amplitude (RA)” (emphasis added), as recited in claim 5. Ito teaches that the received signal power versus noise power ratio (SNR) of a sub-carrier is used to select sub-carriers. (See Fig. 3 and paragraphs [0036]-[0042] of Ito). That is, Ito teaches that a ratio between the received signal power of the sub-carrier and the noise power of the sub-carrier is used to select sub-carriers. However, Applicants respectfully assert that the ratio between the received signal power of the sub-carrier and the noise power of the sub-carrier does not teach “comparing an amplitude of each of the training pilot carriers (TRPC) with a reference amplitude (RA)” (emphasis added), as recited in claim 5.

#### Claim 6

In the Office Action, Shirakata is cited for teaching the limitations of claim 6. (See page 5 of the Office Action). However, Applicants respectfully assert that Shirakata fails to teach “comparing a phase of each of the training pilot carriers (TRPC) with an average value of phase of the training pilot carriers (TRPC)” (emphasis added), as recited in claim 6. As described above, Shirakata teaches dividing the difference between the transmitter-receiver phase differences of two pilot carriers by the carrier frequency difference between the two pilot carriers. However, Applicants respectfully assert that Shirakata fails to teach the above-identified limitation in claim 6.

#### Independent Claim 8

Claim 8 has been amended in a similar fashion to claim 1. Support for the amendment to claim 8 is found in Applicants’ specification at, for example, original claims 1, 2, and 8. Because of the similarities between amended claim 1 and amended claim 8, Applicants respectfully assert that the remarks provided above with regard to amended claim 1 apply also to amended claim 8. Accordingly, Applicants respectfully assert that amended claim 8 is patentable over the cited references.

#### Independent Claim 12

In the Office Action, Ito is cited for teaching the limitations of claim 12. (See pages 3 and 4 of the Office Action). However, Applicants respectfully assert that Ito fails to teach “data carriers (DC) being corrected for a common amplitude error” (emphasis added), as recited in claim 12. As described above, Ito teaches that the received signal power versus noise power ratio (SNR) of a sub-carrier is used to select sub-carriers. (See Fig. 3 and paragraphs [0036]-[0042] of Ito). That is, Ito teaches that the ratio between the received signal power of the sub-carrier and the noise power of the sub-carrier is used to select sub-carriers. However, Applicants respectfully assert that Ito fails to teach “data carriers (DC) being corrected for a common amplitude error” (emphasis added), as recited in claim 12. Accordingly, Applicants respectfully assert that amended claim 12 is patentable over the cited references.

### Dependent Claim 13

Claim 13 depends from and incorporates all of the limitations of independent claim 12. Thus, Applicants respectfully assert that claim 13 is allowable at least based on an allowable claim 12.

### New Claims 14-18

New claims 14-18 have been added. Support for claims 14-18 is found in Applicants' specification at, for example, original claims 1, 2, 5, and 6. Claims 14 and 15 depend from and incorporate all of the limitations of independent claim 12. Thus, Applicants respectfully assert that claims 14 and 15 are allowable at least based on an allowable claim 12. Claims 16-18 depend from and incorporate all of the limitations of independent claim 1. Thus, Applicants respectfully assert that claims 16-18 are allowable at least based on an allowable claim 1. Additionally, claims 14-18 are allowable for further reasons, as described below.

### Claim 14

Claim 14 includes similar limitations to claim 5. Because of the similarities between claim 14 and claim 5, Applicants respectfully assert that the remarks provided above with regard to claim 5 apply also to claim 14.

### Claim 15-18

Claims 15 and 16 recite in part "*averaging the amplitude of the data pilot carriers.*" Claim 17 recites in part "*averaging the phase of the data pilot carriers.*" Claim 18 recites in part "*averaging the amplitude and phase of the data pilot carriers.*" As described above, Shirakata teaches dividing the difference between the transmitter-receiver phase differences of two pilot carriers by the carrier frequency difference between the two pilot carriers. However, Applicants respectfully assert that Shirakata fails to teach the above-identified limitations in claims 15-18.

## CONCLUSION

Applicants respectfully request reconsideration of the claims in view of the amendments and remarks made herein. A notice of allowance is earnestly solicited.

At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account **50-4019** pursuant to 37 C.F.R. 1.25. Additionally, please charge any fees to Deposit Account **50-4019** under 37 C.F.R. 1.16, 1.17, 1.19, 1.20 and 1.21.

Respectfully submitted,

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